the bibliography of limnography, published in the Scottish Lake Survey Reports, about four pages are taken up by references to his work, and his output is more than double that of any other writer. His work was always marked with a clearness of thought and insight, while a love of his subject glowed in every page.

Forel's monograph on "le Léman," which appeared in three volumes from 1892 to 1904, is a model for all limnologists to follow in whatever branch of their science they are concerned, be it as physicist, chemist, zoologist, botanist, archæologist, historian, or economist, while his small "Handbuch der Seenkunde" (1900), which is an admirable introduction to the study of lakes, shows that, in spite of the minuteness of his study of Lake Geneva, he maintained a clear idea of the fundamental points of his subject.

The late Prof. Chrystal called Forel "the Faraday of seiches," and while he ranged over so many sciences, his chief claim to be remembered is that he was the first to explain the nature of seiches or the oscillatory movements which occur in all lakes. He first of all established, by means of portable limnographs, the fact that when the water was rising in level at one end of the lake, it was usually falling at the other, and only two years later, in 1875, he published his theory that the seiches were really standing waves. Considering the data at his disposal, the formulation of his theory was a brilliant piece of work. He himself was content that his reputation should rest on this. He narrates how, in 1875, as he sat for hours motionless at the side of the lake at Romanshorn, watching one of his instruments, he was accosted by a schoolmaster, to whom he endeavoured to explain his theories, but only at the end to be met with the question, so often asked, "Zu was nützt das?" Forel adds with pride:—

> Il est vrai que j'ai consacré à ces recherches bien des heures, bien des journées, bien des années de ma vie. Mais j'avoue que, dans mon for intérieur, je ne me suis jamais senti humilié d'avoir dépensé autant de cette denrée précieuse entre toutes, le temps qui s'écoule et ne revient pas, à un thème sans utilité immédiate et pratique. . . . Quand nous aurons trouvé une confirmation de quelques données de la théorie pure par l'observation directe d'oscillations qui mettent en mouvement de balancement aussi bien la masse énorme des 89 milliards de mètres du Léman, que les quelques litres d'eau de nos auges d'expérimentation, n'aurons-nous pas là une vérification précieuse. . . . Mon cher inconnu de Romanshorn, à ta question: "Wozu nützt es?" je réponds: "Es nützt doch etwas."

When the investigations of the Scottish Lake Survey extended his theory to temperature seiches, no one was more interested in the results than Forel, and he endeavoured to make observations himself to corroborate the Scottish work, but the attempt brought back some trouble in his hands which had caused him to give up actual observational work twenty years earlier.

In 1910 Forel was elected an honorary fellow of the Royal Society of Edinburgh, and when attending the International Seismological Congress at Manchester last year, he delivered an address at Edinburgh on refractions at the surface of a lake, mirages, and Fata morgana. He was unable, owing to ill-health, to accept a former invitation to this country, and it is a satisfaction to his friends here, who were attracted as much by his charming amiable manner and his great courtesy as by his work, that he should have made that visit before the end came.

NOTES.

WE regret to announce the death, on August 15, of Dr. John Wade from injuries received in a motor-cycling accident on July 28. Dr. Wade, who was only forty-eight years of age, was lecturer on chemistry at the Guy's Hospital Medical School, and in that post he was very successful, both in his teaching and organising capacities. He had only recently occupied the new chemical laboratories in that school, the design of which had given him much pleasure. Dr. Wade possessed an original and energetic personality, which found expression in his lectures, his text-book on organic chemistry, and his contributions to the Transactions of the Chemical Society. As a graduate and member of Senate of the University of London Dr. Wade held strong views on the necessity for an external side to the university, and maintained his convictions with great ability and energy. In the field of pure chemistry his most important work was on the constitution of the metallic cyanides, the formation of esters, and studies in fractional distillation under varying pressures. In connection with the latter, he showed, in 1905, that the physiological differences known to exist between chloroform prepared from acetone and from ethyl alcohol were accompanied by chemical differences, ethyl chloride being absent in the former and present in the latter. In applied chemistry he carried out, at the request of the Local Government Board (partly in collaboration with Dr. Haldane and partly alone), a lengthy series of experiments on the disinfection of ships, and these reports form the basis of the current practice of port authorities in Great Britain and elsewhere. He was engaged at the time of his death upon another investigation for the Local Government Board upon the products of combustion of coal gas in rooms.

MR. JOHN FRANKLIN-ADAMS, whose death on August 13 we greatly regret to record, was an enthusiastic worker for astronomical science. He began photographic delineation of the Milky Way about 1898, at Machrihanish, Argyllshire, and this developed into the more ambitious scheme of charting the whole heavens, northern and southern. His celebrated Photographic Chart of the Heavens was commenced (with a 10-in. Cooke lens) at the Cape of Good Hope in 1903, for the southern stars; and completed, for the northern stars, at Mervel Hill, Surrey, between 1904 and 1909. It was found necessary to give an exposure of 2h. 20m. in this climate, to equal 2h. in the clear skies of South Africa. Each plate was 15 in. square, and covered 15° × 15°, the entire heavens, down to stars of 15th magnitude, being included in 206 plates. Owing to great improvements in plate manufacture, it was decided to repeat the southern stars. This was done in 1910 at Johannesburg, the instrument being afterwards presented to the Transvaal Government Observatory. Besides this, there was another equatorial, carrying an 8-in. Wray O.G., and a 6-in. Cooke triplet, with which some fine solar pictures were taken. In his earlier years Mr. Franklin-Adams had taken part in several eclipse expeditions, and secured some good corona photographs. He was elected a fellow of the Royal Astronomical Society in 1897. Owing to protracted illness, he felt unable to carry out his intention of publishing his chart plates, and these were transferred to Greenwich Observatory in July, 1911.

THE death is reported, in his seventy-fifth year, of Prof. Eugene Lamb Richards, professor emeritus of mathematics at Yale. His whole academic career had been spent at that university. Having graduated there in 1860, he was appointed a tutor in 1868, and was promoted to an assistant professorship in 1871, and to a full professorship in 1891. He resigned his chair in 1906. His best-known books were his "Plane and Spherical Trigonometry" and his "Elementary Navigation and Nautical Astronomy."

THE twenty-third annual general meeting of the members of the Institution of Mining Engineers will be held at Birmingham, on Wednesday, September 11, in the Lecture Theatre of the University of Birmingham, Edmund Street, Birmingham. The members will be welcomed to the city by the Lord Mayor of Birmingham (Alderman W. H. Bowater). A reception of the members and their lady friends by the Lord Mayor of Birmingham and Mrs. Bowater will be held at the Council House, Birmingham, on the evening of Wednesday, September 11.

IN May of last year the Home Office announced a competition for a prize of 1000*l.* for the best electric lamp suitable for miners. The prize money was provided by a colliery owner, and the competition was open to persons of any nationality, conditions being laid down that the lamp must be safe, efficient, convenient, and durable, as well as economical in first cost and in use. The first prize has now been awarded to the C.E.A.G. lamp sent in by Mr. F. Farber, Beurhausstrasse 3, Dortmund, Germany, who will receive 600*l.*; and sums of 50*l.* each have been apportioned to eight other competitors, whose lamps were found by the judges to "possess considerable merits."

THE Geologists' Association has made arrangements for a long excursion to the east coast of Scotland from September 12 to September 19. The directors on this occasion will be Mr. G. Barrow, Dr. R. Campbell, and Dr. G. Hickling. The excursion secretary is Miss G. M. Bauer, 16 Selborne Road, Handsworth Wood, Birmingham. Members of the British Association, which meets at Dundee on September 4–11, are invited to take part in the excursion. The programme issued gives particulars of special railway and boat arrangements for travelling from London to Aberdeen, which will be the headquarters of the party. During the excursion an opportunity will be given of seeing the interesting coast section near Aberdeen.

TOWARDS the end of July the crater of Etna showed signs of renewed activity. On July 30 a column of vapour, with ashes and lapilli, rose from the new mouth formed on the north-east side of the central crater on May 28, 1911. This was followed by another outburst on August 3 at 6 p.m., and by a still more pronounced eruption on the following day. At 10.46 a.m. on August 4 a great column of vapour rose from the same vent to a height of 10 km., and then drifted off to the south-east, covering the south-east flank of the volcano with ashes as far as Canizzaro. Shortly before this, from July 28 to 31, increased activity also prevailed in Stromboli, where there were strong shocks, loud rumbling noises, and considerable eruptions of vapour and incandescent material.

THE summary of the weather for the week ending August 17 issued by the Meteorological Office shows that the temperature was again below the mean over the entire kingdom. The greatest deficiency was 6·0° in the south-east of England, while it was almost equally as large in several other districts, amounting to 5·7° in the Midland counties, 5·4° in the south-west of England, 5·0° in the Channel Islands, and 4·7° in the east of England. The north-east of England was the only district in which the thermometer rose to 70°, the highest temperature in the south-east of England being 66° In the corresponding week last year the thermometer registered 91° at Greenwich, and it rose to 90° or above in all the English districts. The rainfall varied considerably in different parts of the kingdom, and it was below the average in several districts; as much as 2·2 in. fell at Jersey on August 12, and 1·1 in. at Plymouth and Salcombe on August 17. The bright sunshine was again much below the average. In most districts the mean daily duration was less than 2½ hours, and in the Midland counties, the south-east of England, and in the north and east of Scotland it was less than 2 hours. The mean temperature of the sea is in some districts as much as 6° colder than last year.

IN *The National Geographic Magazine* for February, Miss E. R. Scidmore, under the title of "Adam's Second Eden," supplies a valuable account of Ceylon, illustrated with perhaps the finest collection of photographs of the people, monuments, scenery, and productions which has ever been brought together. This is followed by an elaborate account of the pearl industry, prepared by Mr. H. M. Smith, United States Deputy Commissioner of Fisheries. The great bulk of the pearls, he states, is the result of the entry of animal parasites which normally pass a part of their life-cycle within the oyster. The minute spherical larvæ of various marine worms, particularly cestodes, enter the shell and become more or less embedded in the soft tissues. As a result of the irritation thus caused, the oyster forms a protective epithelial sac round the intruder, and when the latter dies its mass is gradually converted into carbonate of lime, pearly nacre is secreted by the contiguous epithelium, and the growth of the pearly mass proceeds with the growth of the shell, which is formed in the same way.

MR. W. BURTON contributes to the Journal of the Royal Society of Arts for May a paper on ancient Egyptian ceramics, which supplies a new theory of the formation of this class of ware. Too much attention, he believes, has been devoted to the ordinary unglazed pottery prepared for domestic use, which differs in no degree from the common domestic pottery. The case, however, of the ancient glazed ware dating from early dynastic or pre-dynastic times, with its brilliant turquoise colours of green or blue, is quite different. From an analysis of the material, he arrives at the startling conclusion that it corresponds roughly with the analyses of many ordinary sandstone and quartzite rocks. He dismisses the supposition that the glazed objects could be made by mixing a small amount of clay with a large percentage of sand. These blue or green glazes first appear on objects carved from actual stones, and he suggests that the ancient Egyptians used some natural sandstone from which they carved these glazed vessels. He supports this novel theory by the reproduction of photographs of slices from vessels and rocks tested by the well-known methods of microscopic examination with polarised light, &c. Sir C. Read, who presided, had some hesitation in accepting what he termed "a thoroughly revolutionary theory," such as that advanced by Mr. Burton, and suggested the necessity for further tests, particularly of mediæval Persian ware.

To the third part of *The Austral Avian Record*, the editor, Mr. G. M. Mathews, contributes a note on the colouring of the neck of the Australian cassowary, and also descriptions of various new subspecies of Australian birds.

No. 2 of vol. xlviii. of the Proceedings of the American Academy of Arts and Sciences is devoted to an appreciative biography, by Prof. H. P. Walcott, of Alexander Agassiz, in which special attention is directed to his pioneer work in oceanography and to his labours in connection with the Agassiz Museum.

IN order to save them from the torment of flies, a writer in the July number of *The Animals' Friend* suggests that when horses are "summered" in pastures they should be turned out only at night, and kept in their stables during the daytime, or at any rate during the hottest hours.

THE New York Zoological Society's Bulletin for July contains an illustrated account, by Major Schomburgh, of the living specimens of the pigmy West African hippopotamus, to which reference was recently made in our columns. The author confirms previous accounts as to the great difference in habits between the pigmy species and its giant cousin, the former frequenting the depths of the forests or the bush on the margin of small streams, and not resorting to the rivers and lakes.

THE latest addition to the list of birds observed in the British Islands is the Terek sandpiper (*Terekia cinerea*), of which four examples were killed in Romney Marsh, Kent, last May, as recorded in Witherby's *British Birds* for August. The species breeds in north-eastern Europe and northern Siberia from western Finland to the Kolyma Valley, and normally passes through eastern Europe and Asia on migration to winter in Australia, Malaya, and other parts of Asia, or north-eastern, and even southern, Africa.

MR. J. H. ORTON gives an account (Journ. Marine Biol. Assoc., vol. ix., No. 3, June, 1912) of the natural history and mode of feeding of the "slipper limpet" (*Crepidula fornicata*), which was introduced into this country, along with American oysters, about 1880, and has spread rapidly, especially in certain areas, *e.g.* on the Essex coast, where it is over-running the oyster-beds. As it takes the same food—microscopic organisms, chiefly diatoms—as oysters, it seriously depletes the food-supply of the latter. Each Crepidula is at first male, but later becomes female, and produces in its later life at least 13,000 eggs per year, which are carefully protected beneath the shell of the parent until they are hatched. The larvæ are free-swimming for about a fortnight, during which period they may be borne, by currents, to considerable distances.

MR. G. E. BULLEN contributes to the Journal of the Marine Biological Association (June, 1912) notes on the feeding habits of mackerel in the English Channel, and points out that the fish possesses a capability for selective feeding which may be extended to comparatively minute organisms, when these are present in sufficient numbers. This faculty causes the fish to seek in greatest numbers water supporting the most suitable type of food. The extent of inshore migration, and consequently a profitable or unprofitable fishery, is therefore dependent largely on the planktonic condition of the coastal waters. Mr. G. H. Drew describes several cases of new growths in fish; for instance, fibro-sarcomata in skate and plaice, and an endothelioma of an eel, which was similar in the structure, growth, and arrangement of its cells to the endotheliomata occurring in man.

IN the Clare Island Survey, part 16 (Proc. Royal Irish Acad., vol. xxxi.), Mr. W. West deals with the fresh-water algæ and the marine diatoms. The district is extremely rich in algæ; of fresh-water algæ there have been collected 769 species, 230 varieties, and 40 forms, and of marine diatoms 118 species, 24 varieties, and 6 forms. The recent investigation has resulted in extending the known distribution of a large number of species, in adding 157 species to the number already known for Ireland, 19 species to those known for the British Isles, and in the discovery of 6 new species, 27 new varieties, and 7 new forms. One of the most remarkable results was the discovery of an interesting species of blue-green algæ, *Eucapsis alpina*; this monotypic genus was previously known only from one locality in Colorado, and affords a striking instance of extension of range. Some interesting associations of algæ are enumerated, the most notable feature of which is the fact that "the lists of species vary considerably, though obtained from similar pools with similar surrounding influences."

DR. MARIE C. STOPES has published a remarkably interesting paper (Phil. Trans. Roy. Soc., Series B, vol. cciii.) on petrifactions of the earliest European

Angiosperms, in which she describes and figures three new species of fossil Angiosperms, founded on specimens of petrified wood from the English Lower Greensand. The author shows commendable caution in giving these specimens non-committal generic names, as well as in her admirable discussion of the possible affinities of each genus. The histology of these beautifully preserved specimens suggests comparison with a number of recent genera of Dicotyledons, but only in one case is the resemblance really close—the fossil *Woburnia porosa* agrees closely with the wood of some members of the recent family Dipterocarpaceæ. However, the important fact established by Dr. Stopes is the existence of Angiosperms in England at a period (Aptian) when they were supposed not to exist in northern Europe, the three genera she describes being, moreover, the oldest Angiosperms of which the anatomy is preserved. This important paper is of special interest, since, as the author justly remarks, "except the origin of Man himself there are probably no problems in palæontology of greater interest and importance, and of which less is known, than those which centre round the origin of Angiosperms, and the early history of that group."

THE half-yearly reviews of mining operations in South Australia, Nos. 14 and 15, describe the mineral developments of that State during the year 1911. They report the retirement of Mr. H. Y. L. Brown from the post of Government geologist, which he has held for more than thirty years. Mr. Brown's journeys in Central Australia during that time have not been equalled in extent by those of any other Australian traveller. Mr. Brown's intimate knowledge of the country will remain at its disposal, as he has accepted the post of honorary consulting geologist for the State. Mr. L. K. Ward, late of the Mines Department of Tasmania, has been appointed as Mr. Brown's successor, and Mr. R. L. Jack, son of Dr. Logan Jack, as senior assistant. The mining operations during the past year include the further development of the Radium Hill mines and the raising of a considerable quantity of ore, from which the radium is to be extracted at new works at Bairnsdale, in Victoria. Other radio-active deposits have been found near Mount Painter, and five tons of the ore have been sent to Europe for examination. An additional boring has been made in the Leigh Creek coalfield; it passed through the whole of the coal-bearing deposits, and reached bed rock at a depth of 1079 ft. Mr. Brown reports the progress of the attempt to drain an area known as the "Dismal Swamp" by boring holes through the floor of the swamp into the porous beds beneath; and though the bores that have been put down are small, and it has been found difficult to keep them clear of sand, Mr. Brown is of the opinion that the progress made shows that the swamps may be reclaimed by this ingenious application of percolation wells.

THE twentieth volume of the German oversea meteorological observations has been issued by the Deutsche Seewarte, with the aid of the Imperial Colonial Office. This useful publication (for the year 1910) is divided into three parts:—(1) Monthly and yearly means of observations made at certain hours at stations maintained by the Seewarte in various parts of the world, but not necessarily in countries or localities under the control of Germany. (2) Actual observations and means at certain hours from selected stations, with five-day and ten-day means at all stations in the colony of Togo. At these stations the wet-bulb thermometers are provided with an Assmann aspirator. (3) Similar observations and means, with additional data, for stations in German and one in Portuguese East Africa. Summaries of observations under (2) and (3) are also prepared for publication in the colonial *Mitteilungen aus den deutschen Schutzgebieten*.

FROM the *Annuario* of the Messina Observatory for 1909 we are glad to learn that meteorological observations were recommenced on March 1 of that year. Since the most disastrous earthquake of December 28, 1908, the conditions under which the work has been carried on have been, and are still, very difficult. Owing to the general ruin, everything had to be done again, and access to the instrumental rooms could only be obtained after removal of large masses of débris which choked the passages leading to them. Some of the instruments and the books were eventually removed to vaults which had escaped injury, but after a time they had to be transferred to an adjacent building, owing to the injurious effects of dampness. A classified list of earthquake shocks is given for the whole year; these number no fewer than 1083. Shocks have continued down to the present time, but with decreasing intensity and frequency.

IN the *Atti dei Lincei*, xxi. (1), 10, Dr. Giovanni Giorgi discusses the conditions under which, in a finite field, the limit of an integral of a function, taken between fixed limits, is equal to the integral of the limit of the function, when the parameter of the function becomes infinite.

A BACTERIAL disease has been found to infect the leaves of the well-known *Aster chinensis* of our gardens, and a short description of this disease is given by Dr. G. L. Pavarino in the *Atti dei Lincei*, xxi. (1), 8. The infection appears at first in the form of small spots on the underside of the leaves, and these spread rapidly, causing the leaves to wither and dry up. From the diseased leaves, the author has succeeded in making cultures in the usual media, and has thus isolated a micro-organism which he now describes as a new species under the name of *Bacillus asteracearum*.

IN the *Müller Breslau Festschrift* for 1912 Dr. H. Reissner contributes a paper on stresses in spherical shells, with special reference to domes and similar structures loaded symmetrically or unsymmetrically. Several cases are considered, namely that of a dome in which the potential energy of bending is negligible compared with that of stretching, that in which the resistance to bending is important and the edges are free, and that in which the edges of the dome are fixed. These are all applications of well-known analytical formulæ, but the cases in question do not appear hitherto to have received much attention.

Two patterns of conveniently mounted lenses have been put on the market by the Third Hand Patents, Ltd., of 361 and 363, City Road, London, E.C. Each consists of a lens mounted on a clip for clasping the left thumb, and so leaving the hands free to manipulate specimens under examination. Lenses of almost any power required in a simple magnifier can be provided. A high-power lens with German silver fittings and universal joint costs 6*s*., and a low-power lens with imitation tortoiseshell rim may be purchased for 2*s*. These simple microscopes may be recommended to teachers of nature-study for the use of their pupils when examining natural objects.

THE *Journal de Physique* for July contains an article by MM. Reboul and Grégoire de Bollemont on the distintegration of metals at high temperatures, in which a theory of the process is suggested which seems to cover the known facts satisfactorily. Their own experiments were made in an electric furnace which could be heated to 1200° C. A thin sheet of copper or silver in the form of a cross was attached to a sheet of platinum, the two sheets being parallel and about a millimetre apart. Without opening the furnace, the two could be moved from the cold to the hot part of the furnace, remain there a known time, and be again brought to the cold part. If certain conditions were satisfied, on subsequent examination the platinum sheet was found to have on it a thin film of copper or silver in the form of a cross. The authors ascribe the effect to the direct projection of metallic particles from one sheet to the other, owing to the explosion of minute pockets of occluded gases in the copper or silver sheets near their surfaces. They have already suggested an explanation of the emission of positive charges of electricity by heated metals based on the same theory.

COMMENTING on the Charlestown curve derailment which occurred on June 21, *The Engineer* for August 16 finds itself unable to agree with Colonel Druitt's conclusion that radial tank engines are unsuitable, and quotes the case of the Lancashire and Yorkshire Railway, which has at present 330 of these locomotives in service. The reputation of these locomotives is that they are extremely easy on the road, and consequently on themselves, the flanges of the wheels keeping wonderfully round after running thousands of miles. Our contemporary has no hesitation in accepting Colonel Druitt's recommendations as to speed restrictions, also regarding the difficulty which drivers experience in judging speeds when running on good roads and down steep gradients. The use of speed recorders is suggested in the report, and to this no objection can possibly be taken. Seeing the very extensive use made of such instruments on the Continental railways, it is somewhat surprising that these are not more employed in this country.

THE last of a series of articles descriptive of the Fried. Krupp establishments at Essen appears in *Engineering* for August 16. It is of special interest to note the admirable equipment for works tests. Each department has its own "private" testing plant in order to enable the engineers and metallurgists in charge to ascertain at any moment, for their own private guidance, the way in which the various processes are being carried out. Our contemporary states that the chemical and physical laboratory has not its equal in any part of the world. This is a five-storey building covering an area of 39,000 sq. ft. The chemical laboratories are most completely equipped for the analysis of steel, other metals and alloys, ores, gases, water and so forth, for testing oils, gunpowders, and all products made and used throughout the establishments. The physical research department is admirably equipped for metallographical research work and all classes of physical tests. A number of rooms on the lower floor are set apart for manufacturing all the different glass bottles, tubes, and connections used in the chemical laboratory for analytical purposes, the plant containing the necessary compressed-air piping and the glass-annealing stoves.

A VERY useful little handbook for students who wish to use the reading-room at the British Museum has been written by Mr. R. A. Peddie, and published by Messrs. Grafton and Co., 69 Great Russell Street, London, at the price of 1*s*. net. The book gives full information as to the conditions of admission to the reading-room, the various catalogues, and so on.

OUR ASTRONOMICAL COLUMN.

COLOUR PHOTOGRAPHY OF THE MOON.—Another of Prof. Wood's interesting papers on the photography of the lunar surface, using different selected portions of the spectrum, appears in No. 1, vol. xxxvi., of *The Astrophysical Journal.*

With a nickel-coated mirror of 16 in. aperture, prepared as described in his previous paper, Prof. Wood secured three photographs, one using the visual region of the spectrum, one the violet, and the third the ultra-violet, and on these the different features of the lunar surface show very marked differences of brightness. For example, a patch just above the crater Aristarchus is as bright as the surrounding surface when the "visual" region is employed, comes out rather darker on the "violet" image, and is quite dark when photographed in the "ultra-violet" light. On the other hand, many of the *maria* come out relatively darker in the violet picture, and appear to be differentiated *inter se* by this selective process.

Prof. Wood makes the interesting suggestion that, could pictures be taken over a greater range of different wave-lengths, it would become possible to take up the subject of lunar petrography. For example, a series of experiments led him to the conclusion that the dark patch near Aristarchus is covered by a form of sulphur or some sulphur compound. If it were possible to extend the range of the photographs to, say, 8μ, where the silicates begin to show anomalies in reflecting power, one might be able to map out, petrographically, the lunar surface.

A three-colour lantern slide, made by Mr. Ives from the three negatives, showed the general surface of the moon to be olive-green, but certain spots came out with an orange tone, while others were decidedly purple. The spot near Aristarchus appeared of a deep-blue colour, as was to be expected.

The subject is obviously one of great importance and capable of considerable extension in celestial photography, and Prof. Wood's detailed description of his numerous experiments, colour-filters, and photographs will be found of immense assistance by others who may take up the work. Moreover, he offers to render any help he can and to lend his silvered plates of uviol glass, which he uses as screens, to any observatory ready to use them.